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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,480	11/21/2003	David Y. Zhang	251305/0040 SBP:KYH:AEW	3654
7590 01/30/2008 Steven B. Pokotilow Stroock & Stroock & Lavan LLP 180 Maiden Lane New York, NY 10038			EXAMINER LU, FRANK WEI MIN	
			ART UNIT	PAPER NUMBER
			1634	
			MAIL DATE	DELIVERY MODE
			01/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<i>post-allowance communication</i> <del>Notice of Allowability</del>	Application No.	Applicant(s)	
	10/719,480	ZHANG ET AL.	
	Examiner	Art Unit	
	Frank W. Lu	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to 1/3/2008.
2. ☒ The allowed claim(s) is/are 1,2,23,24,33 and 34.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application  |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>1/2008</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance                                  |
|  | 9. <input type="checkbox"/> Other _____.   |

## DETAILED ACTION

### *Post-Allowance Communication*

2. Since applicant incorrectly added a phrase “a target nucleic acid” in line 1 of claim 33 (see the preamble of the claim) in the 312 amendments filed on January 3, 2008, claim 33 now has been amended as following:

33. (Currently amended) A method for detecting a target nucleic acid [in a target nucleic acid] in a nucleic acid containing sample comprising:

(a) contacting the nucleic acid containing sample with a circular oligonucleotide probe under conditions that allow hybridization between complementary sequences in the target nucleic acid and the circular oligonucleotide probe;

(b) adding at least one forward primer comprising a sequence that is complementary to a portion of the circular oligonucleotide probe, under conditions where the forward primer is extended around the circular oligonucleotide probe for multiple revolutions to form a single-stranded DNA molecule comprising repeating units complementary to the sequence of the circular oligonucleotide probe;

(c) adding at least one multiple oligonucleotide primer complex comprising a first primer, a second primer and a third primer, wherein

(i) the first primer of the multiple oligonucleotide primer complex comprises (A) a first sequence on its 3' end that is substantially identical to a portion of the circular oligonucleotide probe, (B) a second sequence that is complementary to the second primer of

the pair, and (C) a third sequence that is complementary to the third primer of the multiple oligonucleotide primer complex;

(ii) the second primer of the multiple oligonucleotide primer complex comprises (A) a sequence that is complementary to the second sequence of the first primer of the multiple oligonucleotide primer complex and (B) a signal generating moiety selected from the group consisting of a fluorescent agent and a chemiluminescent agent;

(iii) the third primer of the multiple oligonucleotide primer complex comprises (A) a sequence that is complementary to the third sequence of the first primer of the multiple oligonucleotide primer complex and (B) a moiety capable of quenching, masking or inhibiting the activity of the signal generating moiety when located adjacent to, or in close proximity to the signal generating moiety; and

(iv) when the first, second and third primers of the multiple oligonucleotide primer complex are bound to one another, a signal generated by the signal generating moiety is inhibited; and

(d) adding a DNA polymerase having strand displacement activity and lacking 3' to 5' exonuclease activity; and

(e) amplifying the circular oligonucleotide probe using ramification-extension amplification method (RAM) thus producing an amplification product comprising a sequence that is substantially identical to a sequence in the circular oligonucleotide probe, and separating the signal generating moiety from the quenching, masking or inhibitory moiety to generate a signal by the action of the DNA polymerase having strand displacement activity and lacking 3' to 5' exonuclease activity during the amplification method, wherein detection of the signal indicates the presence of the target nucleic acid in the nucleic acid containing sample.

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2. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CAR § 1.6(d)). The CM Fax Center number is (571)273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Lu, Ph.D., whose telephone number is (571)272-0746. The examiner can normally be reached on Monday-Friday from 9 A.M. to 5 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla, can be reached on (571)272-0735.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

January 24, 2008



FRANK LU  
PRIMARY EXAMINER